REMARKS

Upon entry of the present amendment, claims 2-5 and 34 and 37 will be canceled without prejudice or disclaimer of the subject matter recited therein so that claims 1-8, 25-27, 30-32, 34 and 37 will be canceled claims; and claims 9, 12-14, 17, 18, 23 and 24 will be amended, whereby claims 9-24, 28, 29 and 33, 35 and 36 will remain pending.

By the amendment herein claim 35 has been amended to be in independent form by including the subject matter of parent claim 34 therein. Moreover, the dependency of claims have been changed so that the claims will not depend upon canceled claims but depend directly or indirectly from independent claim 35.

Reconsideration of allowance of the application in view of the following remarks are respectfully requested.

Information Disclosure Statements

Applicants express appreciation for the inclusion with the Office Action of initialed copies of the Forms PTO-1449 submitted with Applicants' Supplemental Information Disclosure Statement and Second Supplemental Information Disclosure Statement, whereby the Examiner's consideration of the Information Disclosure Statements is of record.

Response To Art Based Rejections

The following rejections are set forth in the Office Action.

(a) Claims 2, 3, 5, 24, 29 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by McGrath, British Medical Journal, 1942, 156-157.

(b) Claims 2-5, 24, 29 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Takayama, Chemiluminescence Reaction Used in Crime Scene Investigation, Chemistry and Education, 1966, Vol. 44, No. 8, p. 502-505.

(c) Claims 4 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGrath, and further in view of Witz (U.S. Patent No. 3,959,081).

(d) Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takayama, and further in view of Witz.

(e) Claims 9-24, 28, 29, 33 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGrath or Takayama, and further in view of Spiekermann (DE 19633808), translation provided), Weber and Bryne (U.S. Patent No. 5,770,116).

(f) Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGrath or Takayama, and further in view of Gill (Electrophoresis, 1987, 8, 38-44) or Rudbeck (BioTechniques, 1998, 25, 588-90, 592..

In response to these grounds of rejection, Applicants initially note that claim 35 is the sole remaining independent claim, and each of the other pending claims depends directly or indirectly from claim 35. Accordingly, rejections (a), (b) and (e) are no longer applicable because claim 35 is no included in these rejections. Accordingly, these grounds of rejection

based upon McGrath alone, Takayama alone, and McGrath or Takayama and further in view of Spiekermann, Weber and Bryne should be withdrawn.

Regarding rejection (f), this ground of rejection is without appropriate basis because claim 36 depends upon claim 35. Therefore, for the rejection to be appropriate it must address each recitation of claim 35 including that the composition has a pH which is lower than 11.5. Therefore, the rejection is without appropriate basis and should be withdrawn.

With respect to rejections (c) and (d), Applicants submit that these claims of rejection are without appropriate basis and should be withdrawn because claim 35 is not properly rejected under 35 U.S.C. 103(a) as being unpatentable over McGrath, and further in view of Witz, and claim 35 is not properly rejected under 35 U.S.C. 103(a) as being unpatentable over Takayama, and further in view of Witz.

As the rejections realize neither of McGrath nor Takayama teaches a composition having a pH which is lower than 11.5. The rejections attempt to overcome this deficiency of the primary references by relying upon Witz. However, one having ordinary skill in the art would not have sought to modify either of McGrath or Takayama with Witz, and even if for the sake of argument the combination was made, Applicants' claimed subject matter would not be present.

As noted by Applicants in their previously filed response, Claim 35 includes amongst other features recited therein that the composition has a pH which is lower than 11.5. This pH permits the performing of DNA analysis on the blood after the blood has been detected by the composition. In this regard, Applicants have found that DNA analysis is still possible if the pH of the composition is lower than 11.5. The detection power is, in fact, better at a pH of 12.5, but

then DNA analysis is not possible. At a pH of 11.5, it being understood that the lower pH of the compositions according to the invention can be 10.3 (NaOH 25 mmol/l, luminol 20 mmol/l and H_20_2 100 mmol/l), detection power is still acceptable and useful.

Witz may teach a preferred alkalinity (pH 11) so as to provide the optimum quantum yield for the reaction. However, Table I on page 16 in the present specification clearly shows that pH 12.36 is a better pH in terms of the emission of light than a pH of 11.12.

Applicants submit that even if one having ordinary skill in the art would have combined either of McGrath or Takayama with Witz, one having ordinary skill in the art in making such a combination would have performed routine experimentation to determine the appropriate pH to use with the compositions disclosed by either of McGrath or Takayama. In this regard, reference is made to Applicants' specification which discloses that that a better pH for the emission of light would be higher than 11.5. Thus, one having ordinary skill in the art when performing routine experimentations with the compositions of either of McGrath or Takayama would have determined that the pH of the composition should be higher than recited in Applicants' claims.

The only disclosure of having a pH which is lower than 11.5 in compositions the same as or similar to Applicants' compositions is in Applicants' disclosure, and the rejection cannot us Applicants' disclosure in rejecting Applicants' claims. It is Applicants that have shown that with a pH lower than 11.5 it is possible to detect the specific DNA of blood whilst having still an acceptable emission of light.

If one having ordinary skill in the art would have combined McGrath or Takayama with Witz, they would look for the best pH for emitting light which would result in any such combination have a pH greater than 11.5.

Additionally, the Examiner's attention is once again directed to the Declaration submitted with the previous response showing that the Yurow and Witz compositions have a pH higher than 11.5, and should therefore not make possible DNA analysis.

The Examiner is reminded that Witz discloses two solutions (Witz, column 3, lines 15-33) comprising:

1) 0.2 ml H_2O_2 0.5 %, i.e., 0.147 mol/l

2) 0.2 ml luminol 0.33 g/l, i.e., 1.862 mmol/l + NaOH 0.5 mol/l.

Both solutions in Witz were simultaneously injected (Witz, column 2 lines 44-47) into a test tube containing one ml of aqueous suspension.

In the tube, there is present for the first time a composition comprising the three components of luminol, H_2O_2, NaOH in the following concentrations (in a total volume of (0.4+1) ml = 1.4 ml)

Luminol : 0.266 mmol/l

NaOH : 71 mmol/l

H_2O_2 : 21 mmol/l

This composition is not only different from Applicants' composition, but the Declaration submitted with the previous response indicates that a similar composition when prepared had a pH of 12.2.

None of the other documents used in the rejection of claim 36 makes up for the deficiencies noted above. In this regard, Applicants submit that one having ordinary skill in the art would not have modified McGrath or Takayama with Gill or Rudbeck. However, even if for the sake of argument, the disclosures were combined, any combination of the documents would not overcome the above-discussed deficiencies in the rejections of record.

Also, the Examiner's attention is once again directed to the English translation of a paper from the French Defense Department "The effect of the Blue Star blood reagent on DNA typing". Blue Star is the trademark for the composition of Applicants' invention. Pages 9-25 render it clear that a pH lower than 11.5 is necessary for not degrading DNA after 24 hours.

It is also possible to carry out reliable analysis for the type of blood (system ABO). Also enclosed with the previous response was a paper from the domestic minister of Russia and its partial English translation, and the Examiner's attention is once again directed thereto. The conclusions show that Blue Star permits the determination of blood groups.

From the above, it is also apparent that the method recited in claim 36 for analyzing DNA of traces of blood at a scene of a crime comprising vaporizing the composition of claim 35 at the scene to produce reacted blood by a luminous reaction through contact of the composition with traces of blood, collecting the reacted blood to obtain collected blood and DNA analyzing the collected blood is also patentable over the prior art of record.

Still further to the reasons set forth above as well as for the additional features recited therein, the other dependent claims, i.e., claims 9-24, 28, 29 and 33, 35 and 36, are not taught or suggested by the prior art of record.

Accordingly, the rejections of record should be withdrawn.

CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections of record, and allow each of the pending claims.

Applicant therefore respectfully requests that an early indication of allowance of the application be indicated by the mailing of the Notices of Allowance and Allowability.

Should the Examiner have any questions regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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